

CEMP-RT

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Technical Letter
No. 1110-1-159

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Engineering and Design
FILTRATION TREATMENT SYSTEMS

1. Purpose. This Engineering Technical Letter (ETL) provides guidance on the design and specification of filtration systems for hazardous, toxic and radioactive waste (HTRW) applications. Filtration systems for domestic and industrial wastewaters are also addressed to the extent that design considerations for these Systems are substantially the same as those for HTRW applications.


2. Applicability. Filtration systems are used for the separation of suspended solids from aqueous streams. Solids in the water stream may range in size from 2 mm to less than 0.01 mm. Filtration may serve as an intermediate process to prepare wastewater for further treatment or as a final polishing step following other unit treatment processes.

Filtration has historically been used to treat domestic wastewater and potable water. More recently, with the growing awareness of the hazardous and toxic site problem, filtration has been increasingly used to treat contaminated aqueous waste streams. For example, filtration may be used in a ground water remediation treatment train upgradient to carbon adsorption, ion exchange or membrane separation units to remove suspended solids which may foul the units, or in treating leachate, surface runoff, and clarified dredge slurries. This ETL addresses such systems, which generally have influent flows of 15 liters per second (L/s) (200 gpm) or less.

3. Reference. See Appendix D.

FOR THE DIRECTOR OF MILITARY PROGRAMS:

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FOR CARY JONES, P.E.

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